

WHAT IS CLAIMED IS

1. A transmission diversity type transmitter in which the same modulation waves are transmitted from plural transmission units at the same time by delaying a base band signal with delay circuits, and the modulation timing is made coincident among the modulation waves at a reception point to achieve a diversity gain, the transmitter comprising:

a detector for detecting an RF signal of each transmission unit and outputting a detection signal,

a comparator for comparing the detection signals output from the two detectors of two transmission units in said plural transmission units and outputting a comparison signal, and

a delay amount control circuit for controlling the delay circuits of said two transmission units on the basis of the comparison signal output from said comparator so that the modulation timing is coincident at the transmission output terminals of said two transmission units.

2. The transmitter as claimed in claim 1, wherein each transmission unit contains said detector.

3. The transmitter as claimed in claim 1, wherein said delay amount control circuit calculates the average amplitude of the comparison signal output from said comparator, and controls said delay circuits so that the average amplitude is equal to or lower than a threshold value, whereby the difference in delay time between said two transmission units is converged to a permissible value range.

4. The transmitter as claimed in claim 1, wherein when n is an integer larger than 1, the number of said plural transmission units is equal to n, and

the number of said comparators and the number of said delay amount control circuits are equal to $n-1$, respectively.

5 5. The transmitter as claimed in claim 1, wherein each of said transmission units comprises a delay circuit, a modulator, a frequency converter and an amplifier, and said delay circuit is provided at the end to which the base band signal is input.

10 6. The transmitter as claimed in claim 1, wherein each of said transmission units comprises a delay circuit, a modulator, a frequency converter and an amplifier, and said delay circuit is provided between said modulator and said frequency converter.

15 7. The transmitter as claimed in claim 1, wherein each of said transmission units comprises a delay circuit, a modulator, a frequency converter and an amplifier, and said delay circuit is provided between said frequency converter and said amplifier.

20 8. The transmitter as claimed in claim 1, wherein each of said transmission units comprises a delay circuit, a modulator, a frequency converter and an amplifier, and said delay circuit is provided at the output side of said amplifier.

25 9. The transmitter as claimed in claim 1, wherein the base band signal is subjected to ON/OFF control, the rising timing and falling timing of the detection output when the ON/OFF control is carried out are compared with each other by said comparator, and said delay circuits are controlled by said delay amount control circuit so that the difference between the rising timing and the falling timing is within a permissible time range.